REMARKS

Claims 1, 7, 13, 15, 16, 18, 19, 21, 22, 25, 28, and 31 are amended, no claims are canceled, and claims 34-41 are added; as a result, claims 1-3, 7-9, 13-41 are now pending in this application.

In the Specification

The specification has been amended to update the priority data to include the patent number of parent Application No. 09/516,681.

§112 Rejection of the Claims

Claims 15, 18 and 21 were rejected under 35 U.S.C. § 112, second paragraph, for insufficient antecedent basis. Applicant has amended claims 15, 18, and 21 as suggested. As a result, applicant respectfully requests removal of the rejection.

Claims 16, 19, 22, 25, 28 and 31 were rejected under 35 U.S.C. § 112, second paragraph, for a typographical errors. Applicant has amended claims 16, 19, 22, 25, 28 and 31. Claim 16 recites "forming a wetgate oxide layer on the nitride layer." Claim 19 recites "forming a wetgate oxide layer on the nitride layer." Claim 22 recites "forming a wetgate oxide layer on the nitride layer." Claim 25 recites "forming a wetgate oxide layer on the nitride layer." Claim 28 recites "forming a wetgate oxide layer on the nitride layer." Claim 31 recites "forming a wetgate oxide layer having a thickness of between about 10 angstroms and about 50 angstroms on the nitride layer." In light of these amendments, applicant respectfully requests removal of the rejection.

§102 Rejection of the Claims

Claims 13, 15-16, 18-20, 25 and 27-28 were rejected under 35 U.S.C. § 102(b) for anticipation by Yoon et al. (U.S. 5,688,724). Applicant respectfully traverses these rejections.

Applicant respectfully traverses the Office Action's assertion that Yoon teaches formation of a wetgate oxide. The Office Action states: "Yoon et al. teaches a method of forming a coupling dielectric in a memory cell comprising: ... Forming a layer of SiO_2 (18, Noted that wetgate oxide is SiO_2 see instant invention page 6, lines 3-4)". Although SiO_2 may be the

resultant structure of a wetgate oxide process, SiO_2 is merely one composition of one embodiment of a wetgate oxide process. It is commonly known in the art that a wetgate oxide is an oxide layer formed by a process making use of water. A simple recitation of an SiO_2 layer is not equivalent to forming a wetgate oxide. Yoon does not teach or even mention a wetgate oxide. Yoon merely describes SiO_2.

With respect to claim 13, Yoon does not teach what is recited in claim 13 "forming a wetgate oxide layer of SiO_2 on the layer of Si_3N_4." Yoon does not teach formation of a wetgate oxide layer of SiO_2. Forming an oxide made up of SiO_2 without use of water in the formation process does not result in a wetgate oxide.

In light of this, applicant respectfully requests removal of the rejection of claim 13. Claim 15 is believed allowable as a dependant based on claim 13.

Claims 16, 18-20, 25 and 27-28 are believed allowable for substantially similar reasons as claim 13. Claim 16 is believed allowable. Claim 16 recites "forming a wetgate oxide layer on the nitride layer." Claim 18 is believed allowable as a dependant based on claim 16. Claim 19 is believed allowable. Claim 19 recites "forming a wetgate oxide layer on the nitride layer." Claims 20 and 21 are believed allowable as a dependant based on claim 19. Claim 22 is believed allowable. Claim 22 recites "forming a wetgate oxide layer on the nitride layer." Claims 20 and 21 are believed allowable as a dependant based on claim 22.

§103 Rejection of the Claims

Claims 1-3, 7-9, 14, 17, 21-24, 26 and 29-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoon et al. as applied to claims 13, 15-16, 18-20, 25, and 27-28 above in view of Chao et al. (U.S. 6,156,600) and Tseng (U.S. 5,712,208). Applicant respectfully traverses these rejections.

First and foremost, applicant respectfully traverses the Office Action's assertion that Yoon teaches formation of a wetgate oxide. The Office Action states: "Yoon et al. teaches a method of forming a coupling dielectric in a memory cell comprising: ... Forming a layer of SiO_2 (18, Noted that wetgate oxide is SiO_2 see instant invention page 6, lines 3-4)". Although SiO_2 may be the resultant structure of a wetgate oxide process, SiO_2 is merely the composition of one embodiment of a wetgate oxide process. It is commonly known in the art that a wetgate

oxide is an oxide layer formed by a process making use of water. A simple recitation of an SiO_2 layer is not equivalent to forming a wetgate oxide. Yoon does not teach or even mention a wetgate oxide. Yoon merely describes SiO_2.

With respect to claim 1, Yoon does not teach what is recited in claim 1 "forming a wetgate oxide on the cell nitride." Yoon does not teach formation of a wetgate oxide layer of SiO_2. Forming an oxide made up of SiO_2 without use of water in the formation process does not result in a wetgate oxide.

Furthermore, Yoon in fact teaches away from using the configuration taught in claim 1. Yoon teaches formation of a Ta_2O_5 layer, with an optional oxidation and annealing step after the Ta_2O_5 layer is formed. If the annealing step is not formed, then the fourth, or final, SiO_2 layer is not needed. (Yoon, column 5 lines 23-30). Its only purpose is that it "allows damage and defect to be eliminated from the dielectric layer due to thermal rearrangement of the atoms in the film." (Yoon, column 5 lines 17-20). This damage and defect elimination is no longer needed if the Ta_2O_5 layer is annealed and oxidizing.

This differs substantially from that recited in claim 1. Claim 1 recites "oxidizing the Ta_2O_5 with rapid thermal process (RTP) at a temperature above the crystallization temperature for Ta_2O_5." In claim 1, the step of oxidizing and annealing the Ta_2O_5 layer is a necessary step as it is recited.

In light of these arguments, applicant respectfully requests removal of the rejection of claim 1. Claims 2 and 3, dependant claims based on claim 1, are believed allowable as a result. Claims 7-9, 14, 17, 21-24, 26 and 29-33 are believed allowable for substantially similar reasons as claim 1. Claim 7 recites "forming a wetgate oxide to a depth of between about 10 angstroms and about 50 angstroms on the cell nitride." Claims 8 and 9 are believed to be allowable as dependant claims based on claim 7. Claims 14 and 17 are believed to be allowable as dependant claims based on claim 13, for reasons discussed above with respect to the anticipation rejection. Claim 21 is believed to be allowable as dependant claims based on claim 19, for reasons discussed above with respect to the anticipation rejection. Claim 22 is believed to be allowable for at least similar reasons as claim 1. Claim 22 recites "forming a wetgate oxide to a depth of between about 10 angstroms and about 50 angstroms on the cell nitride." Claims 23 and 24 are believed to be allowable as dependant claims based on claim 22. Claim 26 is believed to be

allowable as dependant claims based on claim 25, for reasons discussed above with respect to the anticipation rejection. Claims 29 and 30 are believed to be allowable as dependant claims based on claim 28, for reasons discussed above with respect to the anticipation rejection. Claim 31 is believed to be allowable for at least similar reasons as claim 1. Claim 31 recites "forming a wetgate oxide layer having a thickness of between about 10 angstroms and about 50 angstroms on the nitride layer." Claims 32 and 33 are believed to be allowable as dependant claims based on claim 31.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

SUKESH SANDHU ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 349-9587

Date 24 April 06

By _____
Timothy B Clise
Reg. No. 40,957

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 24 day of April, 2006.

Name KATE GAUDON

Signature _____